

REMARKS

Claims 1-48 are pending. Claims 1, 2, 10, 12-17, 20-25, 30, 32, and 34-48 are rejected. Claims 11 and 19 are allowed. Claims 1-9, 11-13, 15-18, 20-23, and 25-42 are amended. Claims 10, 14, and 24 are canceled. Reconsideration and allowance of Claims 1-9, 11-13, 15-23, and 25-48 are respectfully requested.

Allowed Claims

Claims 11 and 19 are allowed. Applicant thanks the Examiner for this acknowledgement of allowable subject matter.

Objections to Disclosure

The specification is objected to because of informalities in paragraphs [0027] and [0031]. In response thereto, paragraphs [0027] and [0031] are amended in accordance with the Examiner's helpful comments. The amendments merely correct minor clerical errors and bring the specification into agreement with the figures, and as such do not add new matter.

Objections to Claims

Claims 2-10, 12-18, 20-33, and 35-41 are objected to because of informalities. In response thereto, each of Claims 2-9, 12-13, 15-18, 20-23, 25-33, and 35-41 is amended to recite a "charge pump circuit," as suggested by the Examiner, and Claim 36 is amended to delete all instances of the term "node," as suggested by the Examiner. Thus, Applicant respectfully requests the Examiner to withdraw the objections to Claims 2-9, 12-18, 20-23, 25-33, and 35-41.

The amendments to Claims 2-9, 12-13, 15-18, 20-23, 25-33, and 35-41 merely correct clerical errors and other minor informalities. These amendments are not narrowing and are not made for the purpose of patentability or avoiding the prior art.

Claims 10, 14, and 24 are canceled, and thus their objections are now moot.

Rejection of Claims under 35 USC §112

Claims 12-13, 16, 20-25, 30, 32, 34-40, and 42-48 are rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 10, 14, and 24 are canceled, and thus their rejections are now moot.

Claim 12 has been amended in accordance with the Examiner's helpful comments, and thus is now in condition for allowance. Because Claim 13 depends from Claim 12, Applicant requests that the Examiner withdraw the rejection of Claim 13.

With respect to Claim 16, which depends from allowed Claim 11, Claim 11 has been amended to provide antecedent basis for the "two-phase oscillation signal" recited in Claim 16. Thus, Claim 16 is now believed to be in compliance with the requirements of 35 USC §112, second paragraph, and accordingly, Applicant requests the Examiner to withdraw the rejection of Claim 16.

Claims 20-23 and 25 have been amended in accordance with the Examiner's helpful comments, and thus are now in condition for allowance.

With respect to Claim 30, the Examiner states that it is not clear if each switching circuit comprises its own PMOS transistors, or if all the switching circuits in general comprise at least two transistors. In response thereto, Claim 30 has been amended to recite that "each of the switching circuits comprises a PMOS transistor," and is now believed to be in compliance with the requirements of 35 USC §112, second paragraph. Accordingly, Applicant requests the Examiner to withdraw the rejection of Claim 30.

With respect to Claim 32, the Examiner states that it is not understood if each of the first and second logic gates comprises more than one AND gate, or if each logic gate comprises a single, corresponding AND gate. In response thereto, Claim 32 has been amended to recite that "each of the first and second logic gates comprises an AND gate," and is now believed to be in compliance with the requirements of 35 USC §112, second paragraph. Accordingly, Applicant requests the Examiner to withdraw the rejection of Claim 32.

With respect to Claim 34, the terms “configured to generate pumped voltages in an optimally efficient manner” and “configured to generate a maximum pumped voltage” have been deleted, and thus Claim 34 is now believed to be in compliance with the requirements of 35 USC §112, second paragraph. Accordingly, Applicant requests the Examiner to withdraw the rejection of Claim 34.

Claims 35-37 and 40 have been amended in accordance with the Examiner’s helpful comments, and thus are now in condition for allowance. Because Claims 38-39 depend either directly or indirectly from Claim 34, Applicant requests that the Examiner withdraw the rejections of Claims 38-39.

With respect to Claim 42, the Examiner states that it is not clear how the singular “the pumped voltage” on recited in line 10 relates to the plural “pumped voltages” recited in the preamble. In response thereto, line 10 of Claim 42 has been amended to recite “the pumped voltages,” and thus Claim 42 is now believed to be in compliance with the requirements of 35 USC §112, second paragraph. Accordingly, Applicant requests the Examiner to withdraw the rejection of Claim 42.

Claims 11, 12, 16, 20-23, 25, 30, 32, 34-37, 40, and 42 are amended to more clearly recite subject matter Applicant regards as the invention. These amendments are not narrowing and are not made for the purpose of avoiding the prior art.

Allowable Subject Matter

The Examiner indicates that Claim 18, which depends from allowed Claim 11, and that Claims 26-29, 31, and 33, which all depend from allowed Claim 19, would be allowable except for their recitation of the objected term “the circuit.” As discussed above, Claims 18, 26-29, 31, and 33 have been amended in accordance with the Examiner’s comments, and are therefore now allowable.

The Examiner indicates that Claims 12-17, 20-25, 30, 32, 34-41, and 42-48 would be allowable if re-written to overcome the rejections under 35 USC §112, second paragraph.

Claim 12 has been amended in accordance with the Examiner’s comments, and is now in condition for allowance. Claims 13 and 15-17 depend from allowed Claim 11, and are therefore also allowable.

Claims 20-23 and 25 have been amended in accordance with the Examiner's comments, and are now in condition for allowance.

Claims 30, 32, and 34 have been amended to overcome the 35 USC §112, second paragraph rejections, and are now in condition for allowance.

Claims 35-37 and 40 have been amended in accordance with the Examiner's comments, and are now in condition for allowance. Claims 38-39 and 41 depend either directly or indirectly from Claim 34, and are therefore also allowable.

Claim 42 has been amended to overcome the 35 USC §112, second paragraph rejections, and is now in condition for allowance. Claims 43-48 depend from Claim 42, and are therefore also allowable.

Rejection of Claims under 35 USC §102

Claims 1, 2, and 10 are rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 6,151,229 to Taub et al (Taub). Claim 10 is canceled, and thus its rejection is now moot. Applicant respectively traverses the rejections of Claims 1 and 2.

Applicant's Claim 1, as amended, recites:

A charge pump circuit for generating a pumped voltage, comprising:
first charge pump means responsive to a first set of clock signals;
second charge pump means responsive to a second set of clock signals different from the first clock signals;
means for selectively connecting the second charge pump means in series with the first charge pump means in response to a mode signal; and
means for selectively bypassing the second charge pump means to generate the pumped voltage in response to the mode signal.

Taub's Fig. 1 shows a charge pump circuit including two multi-stage charge pumps (A and B) and a select circuit formed by a mode control signal (MODE_CTL), an inverter (18), a first pass transistor (19), and a second pass transistor (unlabeled) connected between an output of pump A and an input of pump B. When MODE_CTL is asserted (e.g., to logic high) in a "slew" mode, the unlabeled pass transistor turns on

to couple pump A's output to pump B's input, and pass transistor 19 turns off to de-couple pump B's input from VCC. Thus, in the slew mode, pump A is coupled in series with pump B to generate the charge pump circuit's output voltage. When MODE_CTL is de-asserted (e.g., to logic low) in a "program" mode, the unlabeled pass transistor turns off to de-couple pump A's output from pump B's input, and pass transistor 19 turns on to couple pump B's input to VCC. Thus, in the program mode, because the unlabeled pass transistor de-couples pump A's output from pump B's input, pumps A and B are connected in parallel to generate the charge pump circuit's output voltage (see col. 1, line 44 to col. 2, line 17). In either mode, both of Taub's charge pumps A and B are used to generate the charge pump circuit's output voltage, and neither charge pump can be bypassed. This is in marked contrast to Applicant's Claim 1, which recites "means for selectively bypassing the second charge pump means to generate the pumped voltage in response to the mode signal."

To anticipate a claim under 35 USC §102, each and every element of the claim must be disclosed in a single reference¹. The exclusion of a claimed element from a prior art reference is enough to negate anticipation under 35 USC §102. Thus, because Taub fails to disclose or suggest a charge pump circuit that includes "means for selectively bypassing the second charge pump means to generate the pumped voltage in response to the mode signal," as recited in Applicant's Claim 1, Claim 1 is not anticipated by Taub. Accordingly, Applicant respectfully requests the Examiner to withdraw the rejection of Claim 1.

Claim 2 depends from Claim 1 and therefore distinguishes over the cited references for at least the same reasons as Claim 1.

Claims 3-9 were objected to as being dependent from a rejected base claim, but are indicated as allowable if rewritten in independent form. Applicant thanks the Examiner for this acknowledgement of patentable subject matter. Claims 3-9 depend from Claim 1, which is believed to be allowable for the reasons set forth above. Furthermore, Applicant has amended Claim 4 in accordance with the amendment in Claim 1. Therefore, for at least the same reasons Claim 1 is allowable, Applicants believe Claims 3-9 are also allowable.

¹ Corning Glass Works v. Sumitomo Electric, 9 USPQ2d 1962, 1965 (Fed. Cir. 1989).

CONCLUSION

In light of the above remarks, it is believed that Claims 1-9, 11-13, 15-23, and 25-48 are in condition for allowance and, therefore, a Notice of Allowance of Claims 1-9, 11-13, 15-23, and 25-48 is respectfully requested. If the Examiner's next action is other than allowance as requested, the Examiner is requested to call the undersigned at (408) 879-4641.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on July 1, 2005.

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